



**NEW ENGLAND  
COMMON ASSESSMENT PROGRAM**

**Released Items  
2009**

**Grade 8  
Science**

# Science

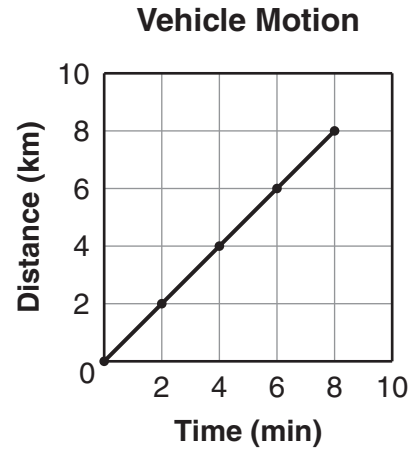
1 Which sequence represents matter that is losing energy?

- A. solid  $\rightarrow$  gas  $\rightarrow$  liquid
- B. solid  $\rightarrow$  liquid  $\rightarrow$  gas
- C. gas  $\rightarrow$  solid  $\rightarrow$  liquid
- D. gas  $\rightarrow$  liquid  $\rightarrow$  solid

2 Photosynthesis is a chemical reaction that occurs inside green plant cells. Which sentence describes one important energy conversion that occurs as a result of photosynthesis?

- A. Light is converted to chemical energy.
- B. Carbon dioxide is converted to light energy.
- C. Oxygen is converted to chemical energy.
- D. Chlorophyll is converted to light energy.

3 The graph below describes the motion of a vehicle traveling at a constant speed for 8 minutes.



What is the average speed of the vehicle after 5 minutes?

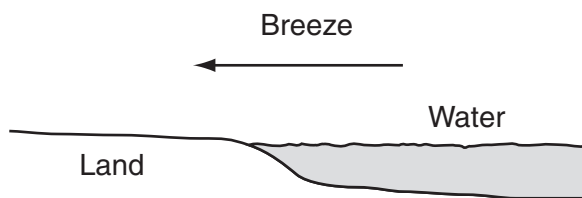
- A. 1 km
- B. 1 km/min
- C. 5 km
- D. 5 km/min

- 4 A naturally occurring element has a melting point of  $-38.9^{\circ}\text{C}$  and a boiling point of  $356.7^{\circ}\text{C}$ .
- a. Identify the element's state of matter at  $0^{\circ}\text{C}$  and explain why the element is in this state.

The same element is heated from a temperature of  $-42.0^{\circ}\text{C}$  to a temperature of  $-35.0^{\circ}\text{C}$ .

- b. Describe what happens to the element as it is heated from  $-42.0^{\circ}\text{C}$  to  $-35.0^{\circ}\text{C}$ . Be sure to include what happens to the atoms of the element.

- 5 In the summer, coastal towns usually experience cool ocean breezes, as shown in the diagram below.

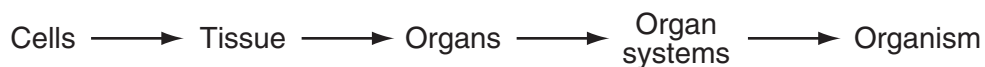


Which process creates the type of ocean breeze shown?

- A. Cool air above the ocean sinks and warm air above the land rises.
  - B. Cool air above the ocean rises and warm air above the land sinks.
  - C. Warm water evaporates and condenses above the ocean.
  - D. Warm water condenses and precipitates above the ocean.
- 6 Which type of rock forms under high temperatures and pressure but is **not** exposed to enough heat to melt?
- A. igneous
  - B. metamorphic
  - C. sedimentary
  - D. volcanic

- 7 What causes Earth's year to be shorter than Jupiter's year?
- A. the gravitational pull of Jupiter's moons
  - B. the shape of Earth's orbit around the Sun
  - C. the distance between Earth and the Sun
  - D. the mass and density of Jupiter

- 8 The diagram below shows the levels of organization in a multicellular organism.



Which level of organization is made up of cells working together to do just one job?

- A. cells
  - B. tissue
  - C. organ systems
  - D. organism
- 9 Which two processes work together to cycle oxygen through an ecosystem?
- A. respiration and precipitation
  - B. evaporation and precipitation
  - C. respiration and photosynthesis
  - D. evaporation and photosynthesis
- 10 In an experiment, fruit flies with normal wings were allowed to breed inside two different containers. The table below shows the wing types of the offspring.

**Wing Types of Offspring**

Container	Normal Wings	Tiny Wings
W	223	61
X	211	90

Which statement is **best** supported by the data in the table?

- A. Fruit flies have only one kind of wing type.
- B. Both parent fruit flies passed on the tiny wing characteristic.
- C. Parent fruit flies with normal wings always have offspring with normal wings.
- D. Just one parent fruit fly determined the wing type the offspring have.